

ELECTRIC CIRCUIT FOR IGNITING A DISCHARGE LAMP, AND ELECTRIC COMPONENT MODULE AND DISCHARGE LAMP INCORPORATING SUCH AN ELECTRIC CIRCUIT

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3/23/07  
This Application is a National Phase Application under 35 U.S.C. 371 claiming the benefit of PCT/IB03/00539 filed on 02/12/2003, which has priority based on European Patent Office (EPO) 020 75985.8 filed on 03/13/2002. —

The invention relates to an electric circuit for igniting a discharge lamp, comprising a voltage source, at least one first condenser electrically connected to the voltage source, a series chain, electrically connected in parallel with the first condenser, of at least one ignition and at least one first inductor, and a discharge lamp electrically connected in parallel with the ignition, which discharge lamp is provided with a discharge vessel. The invention also relates to an electric component module for use in such an electric circuit. The invention further relates to a discharge lamp incorporating such an electric circuit.

The awareness of the need for power conservation is becoming a significant factor both for purchasers as well as for lighting equipment manufacturers. The feature of a higher efficacy of a burner of High Pressure Sodium (HPS) lamps while retaining at least the same light intensity results in a lower power consumption, which creates clear benefits for the purchaser. A method known in the art to achieve a lower power consumption consists in lowering the burner operating voltage, thus shifting the operation point of the lamp to lower power. However, applying said method is accompanied by several drawbacks. One of the drawbacks is that the implementation of a lower burner voltage causes overstressing of a ballast, which is electrically connected with the lamp, as a result of an increase of the input current to the electric circuit. An increase of the current results generally in a shortening of the lifetime of one or more electric components, such as the ballast and the lamp that are part of the operating electric circuit.

The invention has for its object to provide an electric circuit with which at least a conventional light output of the discharge lamp can be generated at a relatively low power consumption without overstressing components forming part of the electric circuit.

The invention provides for this purpose an electric circuit of the type stated in the preamble, characterized in that the electric circuit is provided with a second inductor which is electrically connected in series with the discharge vessel. By on the one hand applying a relatively low operating voltage across the electric circuit, and on the other hand limiting the current - which increases as a result of the low operating voltage - by applying the second inductor, a light intensity of the light radiation generated by the discharge lamp which is substantially constant compared to the prior art can be obtained at a relatively low